Nesa Days 2015, Conference Report

Tinelli, Andrea

Abstract: The New European Surgical Academy (NESA) Annual Meeting, called NESA DAYS, was held in Berlin on 18-20 September 2015 at the Leonardo Royal Hotel Berlin Alexanderplatz (http://www.comtecmed.com/nesa/ 2015/Default.aspx). The Presidents of the Conference, Prof Michael Stark, Prof, Gian Carlo Di Renzo and Prof. Tahar Benhidjeb, dedicated the main theme to acute care surgery and emergencies in all surgical fields, as well as novelties in endoscopy and telesurgery. Participants learned about optimal ways of overcoming unexpected surgical situations in many specialization fields. Opinion-leaders from various disciplines and countries presented their experience and ideas about important issues in Obstetrics and Gynecology, General Surgery, Anesthesiology, Oncology, etc. The NESA is an international, interdisciplinary organization with members in 51 countries and associated with international organizations like FIGO (International Federation of Obstetrics Gynecology), the German Gynecological Association, the Danish Surgical Association and the Hong Kong Medical Academy. The NESA modifies and improves surgical procedures, has created the first European working group for natural orifice surgery and supports the European telesurgical project. The NESA initiates and performs surgical workshops in countries with limited resources. The NESA Days are interdisciplinary surgical conferences, which enable surgeons from different disciplines to learn from each other and implement in their own daily practices ideas from other disciplines. In ObGyn field, the topics concerned a focus on Cesarean Section, on Uterine Fibroids, innovative instruments and endoscopic techniques (new hysteroscopic, laparoscopic and robotic methods), pregnancy surgical complications, endometriosis treatment, gynecological oncology, breast cancer treatments. The conference consisted in oral and video sessions where leaders in certain areas presented and discussed the above-mentioned topics, presenting their results from recent years and point out future directions of medicine. All invited researchers presented their investigations by poster presentations and discussion session. Finally, participants from 38 countries attended the NESA DAYS conference.

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Nesa Days 2015, Conference Report

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The New European Surgical Academy (NESA) Annual Meeting, called NESA DAYS, was held in Berlin on 18-20 September 2015 at the Leonardo Royal Hotel Berlin Alexanderplatz (http://www.comtecmed.com/ nesa/ 2015/Default.aspx). The Presidents of the Conference, Prof Michael Stark, Prof, Gian Carlo Di Renzo and Prof. Tahar Benhidjeb, dedicated the main theme to acute care surgery and emergencies in all surgical fields, as well as novelties in endoscopy and telesurgery. Participants learned about optimal ways of overcoming unexpected surgical situations in many specialization fields. Opinion-leaders from various disciplines and countries presented their experience and ideas about important issues in Obstetrics and Gynecology, General Surgery, Anesthesiology, Oncology, etc. The NESA is an international, interdisciplinary organization with members in 51 countries and associated with international organizations like FIGO (International Federation of Obstetrics & Gynecology), the German Gynecological Association, the Danish Surgical Association and the Hong Kong Medical Academy. The NESA modifies and improves surgical procedures, has created the first European working group for natural orifice surgery and supports the European telesurgical project. The NESA initiates and performs surgical workshops in countries with limited resources. The NESA Days are interdisciplinary surgical conferences, which enable surgeons from different disciplines to learn from each other and implement in their own daily practices ideas from other disciplines. In ObGyn field, the topics concerned a focus on Cesarean Section, on Uterine Fibroids, innovative instruments and endoscopic techniques (new hysteroscopic, laparoscopic and robotic methods), pregnancy surgical complications, endometriosis treatment, gynecological oncology, breast cancer treatments. The conference consisted in oral and video sessions where leaders in certain areas presented and discussed the above-mentioned topics, presenting their results from recent years and point out future directions of medicine. All invited researchers presented their investigations by poster presentations and discussion session. Finally, participants from 38 countries attended the NESA DAYS conference.

1. Prof. Ospan A Mynbaev from The Moscow Institute of Physics and Technology (State University), Russia and his colleagues studied the uterine leiomyoma evaluating the direct intraoperative evaluation of pO2 in leiomyomas and surrounding myometrium. Data have shown that leiomyoma tissue is extremely hypoxic or almost anoxic, with shallow pO2 gradients in comparison with that of the surrounding myometrium. It is well known that hypoxic tumor environment, which is an extremely important driving force for malignancy, is a promoting factor of cancer cell invasion and metastasis [1]. However, the malignancy potential of uterine leiomyoma is very low, which implies leiomyoma as a unique model among benign tumors. It is also clearly determined that both leiomyomas and leiomyosarcomas were poorly vascularized in comparison with that of normal myometrium. On the other hand, in leiomyoma biopsy specimens, hypoxia-related markers such as hypoxia-inducible factor (HIF) HIF-1α and HIF-2α, glucose transporter (GLUT)-1 and carbonic anhydrase (CA) IX, were not expressed at all, whereas these hypoxia-related markers were overexpressed in the leiomyosarcoma with exhibition of a high-turnover phenotype (significantly increased proliferation and apoptosis) [2]. These circumstances have made leiomyoma and leiomyosarcoma intriguing research objects of many studies in order to comparatively explore insights of the growth of benign and malignant tumors, as well as the impact of different genes, transcriptomic, angiogenic and growth factors, peptides, cytokines and other biologically active substances on this twofold process in the same organ. Therefore, their presentation reviewed current literature concerning hypoxic background of leiomyoma and leiomyosarcoma as well as to reconstruct their angiogenic profiles by bioinformatics and mathematical modeling.
2. Dr. Alexander N Nikitin, from Volgograd State University, Russia and his colleague presented a pilot study on surgical treatment of urogenital prolapse by application of a six straps polypropylene prosthesis, since it is well stated that a mesh prolapse surgery shows higher efficacy in urogenital prolapse treatment, even if the surgical morbidity is still higher in comparison with native tissues [3]. The aim of this pilot study was to assess the preliminary results of surgical repair of anterior and apical prolapse by application of a six straps polypropylene

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prosthesis (OPUR technique). Eighteen patients with urogenital stage 3 anterior prolapse were operated by OPUR technique. Postsurgical outcomes included the anatomical results (evaluated by the POP-Q System), anatomical results stage two, and more were considered as failure of surgery. Intra and postsurgical complications were recorded, as well as qualities of both general life (QoL) and sexual life were assessed by the questionnaires (PFDI-20, PFIQ-7 и PSIQ-12). The follow up was 3 months. The results showed the mean age as 57,8±8,4 years, and the cystocele accompanied by the apical prolapse in 9/18 cases (stage 2: 8/18; stage 3: 1/18). The QoL was improved in 15/18 patients according to PFDI-20 and in 14/18 according to PFIQ-7 and the quality of sexual life did not changed. The anatomical result was successful in 17/18 cases (≤ I по POPQ System), without intraoperative complications. Hematomas between the bladder and the anterior vaginal wall after the surgery were developed in 2/18 cases, which were resorbed during up to 6 weeks. Authors did not reported any post-operative complication. These preliminary results of surgical repair of anterior and apical prolapse by application of a six straps polypropylene prosthesis demonstrated the efficacy of this method and low morbidity. The OPUR proposal demonstrated good anatomical restoration according both the anterior and the apical compartment without serious intraoperative complications.

3. Prof. Leyla Adamian from Department of Plastic Surgery I.M. Sechenov First Moscow State Medical University, Moscow, Russia and colleagues discussed on neovaginal reconstruction in male to female transsexuals by original technique (modified penile inversion), as over 10 years the original method of modified penile inversion was being in use in her team [4]. This technique differs from the classical methods of penile inversion with neovagina creation by the means of usage skin-spongiosal sheath, with contains glans penis with preservation of neurovascular relations with dorsal neurovascular beam. She successfully used this technique in 50 patients with male transsexualism. This procedure includes the separation of the dorsal neurovascular beam by the means of precision skeletrization of cavernous bodies. Unfortunately, even when they used precision technique of dissection, the risk of traumatization of the minor neurovascular relationships between skin-spongiosal sheath and dorsal neurovascular beam had stayed very high. This fact may have a negative influence on blood supply, trophic and somatic innervation of created neovagina skin sides. To improve the results of neovaginoplasty they performed the modified procedure of their original method. This technique includes the creation of neovagina, that is formed from unified complex of tissues, which contains penile skin, glans penis on a neurovascular pedicle, ventro-lateral parts of tunica albuginea of cavernous bodies and Buck`s fascia, by such way that dorsal neurovascular beam stays intact while the dissection. In all cases, she received good aesthetic and functional result.

4. Dr. T. Alieva from Kazakh Medical university of Continuous Education, Institute of Reproductive Medicine, Kazakhstan, investigated how to estimate the efficiency of intrasurgical blood loss during laparoscopic myomectomy by a retrospective study of 21 cases of temporary cross clamping of uterine vessels during laparoscopic myomectomy [5]. During surgery, the average time of cross clamping was 66±18 min. (25-80 min), and, after fibroids removal, two or three row sutures sutured their beds. An average of hemorrhage was 66,4±17,3 ml (40-105 ml). Authors did not observe any early postsurgical complications and patients were discharged from hospital at the 2nd and 3rd days after surgery. Authors convinced that temporary cross-clamping of uterine vessels during laparoscopic myomectomy could be beneficial for patients to submit to myomectomy, since this approach could reduce intrasurgical blood loss, improvement of surgical field visualization and uterine wall suturing by two or three sutures.

5. Dr. Bakhitzhan K Alimov et coll., from Shymkent Hospital, Kazakhstan, showed a project aimed to implement of Telemedicine Technologies into postgraduate medical educational system. [6] by following steps: 1) Key indices of the telemedicine monitoring services; 2) IT-Specialists were trained for a telemedicine; 3). Special auditorium/halls and operation theatres in medical centers and hospitals in capital city Astana and regions (in 186 medical centers and

hospitals) equipped for video communication and telemedicine; 4) Two main servers equipped: 1) The Central Republican IP VPN network *i.e.*, centralized closed special telemedicine TV-channel for online video communication with foreign bodies; 2) The Regional IP VPN network system for translation into network of medical centers and regional hospitals. The first national videoconference with the regions was done in 03.03.2010 and since more than 50 international/ national telemedicine were successfully organized. An international Kazakh-Russian videoconference, (Moscow-Astana, annually), an international videoconference (Germany, Austria, Kazakhstan, 2011), chairman the President of the European Association of Telemedicine Professor Nerlic; an international Kazakh-Chinese telemedicine conference (2012), an international Kazakh-Turkish videoconference (Astana-Istanbul, 2012), an international videoconference (Astana, Kaunas, Kiev, annually), an international Kazakh-South Korea videoconference (Astana-Seoul, annually). There were online translations of abdominal, cardio and transplantation surgery performed by experts, keynote lectures in different areas of medicine and presentations. These telemedicine conferences were translated through a special telemedicine channel into our network including 186 medical centers and regional hospitals and in general, more than 10 000 doctors were participated in these events. These activities have increased quality of medical aid in Kazakhstan, especially in well-equipped centers in telemedicine. Authors affirmed that online telemedicine could be successfully implemented into postgraduate medical educational system in order to increase professional knowledge of physicians. It is a cost-efficient educational technology in a new communication-information era. In order to increase telemedicine implementation into postgraduate medical educational system following tasks need to be developed: 1). Special individualized access system into telemedicine network for users; 2). Online testing programs; 3). Telemedicine credits for postgraduate medical educational system.

6. Dr. Brigit Arabin from Centre for Mother and Child Philipps University Marburg, Germany and Clara Angela Foundation Witten und Berlin, Witten, Germany, spoke about cesarean delivery worldwide [7]. During the last 30 years until today, the rate of Cesarean in many countries increased to a rate of nearly 50% (Brazil, Chia) which is called “the Cesarean epidemic”. On the other side, Cesarean rates are extremely low in rural areas of low resourced countries of Africa and Asia such as Ethiopia (0.1%) or Nepal (0.7%) due to a lack of hospital facilities in close neighborhood [8]. It is a challenge to reflect our most frequent operation and to balance the Cesarean rates worldwide to reduce harm and costs. According to the WHO, no operation worldwide is so well documented than Cesareans: In 137 countries, approximately 95% of global births/year are evaluated [9]. Countries with Cesareans below 10% signify an underuse, above 15% an overuse. 54 countries had Cesarean rates < 10percentage, 69 > 15%, only 14 countries had rates between 10 and 15%. Altogether, 3.18 million additional Cesareans were needed and 6.20 million unnecessary performed. The WHO ethical committee further states: There is no hard evidence on the relative risks and benefits of term Cesareans for non-medical reasons compared with vaginal delivery. Available evidence suggests that normal delivery is safer in the short- and long-term for both mother and child [10]. Physicians have a professional duty to do nothing that may harm their patients and to allocate health care resources wisely to procedures and treatment for which there is clear evidence of a net benefit to health. Physicians are not obliged to perform an intervention for which there is no medical advantage and is not ethically justified. In 2009, within Europe, the rate was lowest in the Netherlands and highest in Italy (14.3% versus 38.4%) and between 2000 and 2009, there was only a reduction in Finland and Iceland (OECD) [7]. The rate is higher in private compared to public health care systems. Within countries and even among obstetricians of the same country, consensus on best practices for indications such as prematurity, twin pregnancies or high and low birth weight are lacking but highly necessary as developing strategies to reduce CD rates. A vicious circle is caused by a lack of training of skills how to deliver risk pregnancies such as vaginal operative or twin deliveries. Cesareans on demand involve the exercise of a positive right to intervention that is not supported in

clinical judgment as medically reasonable. The result will be to reduce physicians to mere technicians, instead of professional judgment indifferent to the use of information, rather than professionals committed to well-being of patients. Both, need and waste of Cesareans cause suffering for young women in childbearing age and their children. The situation in low resourced countries deferrers worldwide and even between urban and rural areas of the same country related to the possibility to deliver within a hospital and thus in an environment where a Cesarean can be performed [9]. In addition, the conditions within these places differs and when there is a low capacity related to admission rates and staff only the most urgent patients will receive a Cesarean. Thoraya Obaid, Executive Director United Nation Population Fund remarked that it would keep startling him that at the beginning of the 21'st century, at a time when we can explore the depths of the seas and build an international space station, we have not been able to make childbirth safe for women around the world. Therefore, it seems even more absurd that in Western countries indications for Cesarean are wasted and thus cause harm. States with Cesarean rate >33% have a 21% higher risk of maternal mortality than those where Cesarean rates are <33%. In the US, maternal mortality has increased from 10 (1998) to 14/ 100.000 (2004) due to placenta percreta, scars or emergency hysterectomy after a complication induced by a (previous) Cesarean [10]. Confidential inquiries about the specified complications as the direct or indirect cause of combined mortality or severe morbidity are rare. In Great Britain and the Netherlands, it is a law to investigate all maternal deaths "confidentially" whereby specialists analyze the documents and categorize whether the complications could have been avoided. This rarely investigated by questioning the indication for a Cesarean. On the contrary, malpractice cases frequently blame that a Cesarean was NOT indicated. With increasing Cesarean rates in primiparas women, vaginal birth after Cesarean's (VBAC) is rising [11]. Data base systems help to indicate when an attempt of VBAC is combined with fewer risks for long-term health of mother and infant but are insufficiently used. Women are rarely informed about the risks in a subsequent pregnancy such as an increased rate of abortion, extra uterine pregnancy, intrauterine death etc. New research concentrates on the epigenetic risks of Cesareans for the infant such as an increased rate of obesity, autoimmune diseases or even autism mainly caused by differences in the methylation and a pathologic microbiome [12]. We are only beginning to understand the complexity of intestinal microbiota and its functional influence on the host s immune system. In her conclusion, the remark of one of the former FIGO presidents, Mahmoud Fathalla still holds true that women are not dying because of diseases we cannot treat but because of societies who make no decisions that their live is worthwhile to be saved. This holds true for both, the need in poor societies for an adequate hospital care and the waste in industrialized countries frequently cause by commercial interests and low skills in good obstetric care. We are all obliged to find measures to care for hospital availability and trained staff in low resourced countries and to reduce commercially motivated high Cesarean rates in industrialized countries to improve long-term health of mothers and infants.

7. Dr. Jack Atad from Atad Developments and Medical Services Ltd., Haifa, Israel, discussed on the labor induction using the cervical ripening balloon (CRB) and the new CRBs with a stylet. Dr Atad in the 1990th started his studies at the Carmel Medical Centre (Haifa, Israel) using a double balloon catheter he developed as a mechanical method for cervical dilatation and labor induction in women with unfavorable cervical conditions. Results of his studies were published in the literature and presented in national and international conferences with high success rates of labor induction and avoiding side effects of PG medications [13]. Many hospitals adopted Dr Atad's method for labor induction using the double balloon devices (CRB) and up to date more than 500.000 deliveries were induced with the CRB in the US, China, Europe, Australia and Israel. Since the introduction of that technique in 1993, more and more CRB catheters are used and at present CRB, catheters are adopted as the most popular method for labor induction in many countries and institutions. It is important to emphasize that the method is keeping its popularity among patients and staff due to the high success rates, low rates

of complications, cost effective and low rates of cesarean section deliveries. The method was applied as well in patients with previous low segment CS requiring induction of labor with 80% vaginal deliveries and only 20% repeat CS. (an article was published using the CRB in women with a previous CS). Recently an upgrade of the CRB is being market with an addition of a stylet (CRBS) that allows the placement of the device without the need of a lithotomy position and without a placement of a speculum for its insertion. The consistency in its popularity as the preferred method of labor induction in so many institutions is a solid prove that this technique is one of the most effective and well-tolerated method for labor induction. The CRB is approved by the FDA for use in the US and many other countries.

8. Dr. Tatiana I. Babenko, from the Department of Obstetrics & Gynecology, Stavropol State Medical University, Russia, presented a research on feasibility of Vaginal Birth after Cesarean Sections (VABACs), since obstetricians recommend to pregnant women with scarred uterus repeated cesarean section rather than vaginal birth [14]. This ultimately decision is made by obstetricians due to an absence of biomarkers, which will be basics to predict sufficiency of uterine scar and a possibility of vaginal birth. Today obstetricians do not have a warranty covered by a medical insurance based on results of diagnostic investigations during pregnancy or before pregnancy. Therefore obstetricians are avoiding long lasting observation of parturient with scarred uterus during the first period of delivery and do not want to face possible obstacles during the second and third periods of delivery [15]. In Russia, cesarean section (CS) rate has increased from 7% up to 25% during last 30 years. Nowadays, the rate of cesarean section is varying among hospitals and centers since pregnant women with scarred uterus mostly accumulated in departments for high-risk pregnancy with experienced and trained staff belonging to hospitals or centers are dealing with the third level of medical aid [11]. Therefore, aim of her study was to retrospectively analysis of dynamical structure of birth modalities during 9 years and rates of common and repeated cesarean sections, as well as the rate of vaginal birth after previous cesarean section in single city emergency hospital in order to survey perspectives of VBACS. In 2006, Stavropol city emergency hospital was capitally repaired and newly equipped for the third level of medical aid and as the Stavropol state medical university clinic. The university ethical committee approved the study protocol and all medical notes concerning delivery were collected. Delivery modes, vaginal birth, common cesarean section, repeated cesarean section and vaginal birth after cesarean section were analyzed in annual cohorts. In the study results, 34070 women have delivered for 9 years in this hospital. The annual number of births is increased two fold from 2007 to 2014. The annual rate of common cesarean section has increased from 21.6% up to 33%, and the annual rate of repeated cesarean sections among them was increased from 17.2% up to 26%. The annual number of women, who made decision for vaginal birth after previous cesarean section, was increased from 5.5% up to 8.3%. Luckily they do not have any cases of maternal mortality are related with cesarean scar rupture. It is very little evidence for solid conclusions from this single center experience, but rates of both common and repeated cesarean sections have significantly increased for 9 years, whereas the rate of vaginal birth after cesarean section is very low. However, the rate of vaginal birth after cesarean section has increased mostly by maternal request supported by enthusiasm of few experienced obstetricians in their clinic. There were very few cases when they changed delivery mode from previous decision of vaginal birth due to patient's request to repeated cesarean section. Most cases of decisions to switch from initially planned vaginal birth to repeated cesarean sections have made obstetricians due to unfavorable course of delivery. There were not cases of both maternal and neonatal mortalities related with cesarean sections either with vaginal birth after cesarean sections. There is a wide range of unsolved problems concerning this question [16]. Firstly, there was not appropriate cooperation between obstetricians who takes care about delivery and gynecologists in outpatient clinics, who takes decision concerning uterine scar sufficiency before pregnancy. Secondly, obstetricians in departments for high-risk pregnancy or delivery room usually were dealing with pregnant women

during advanced pregnancy and there are not relevant features of scar dehiscence by ultrasound either magnetic resonance imaging. Mostly clinical manifestation of scar can be recognized by experienced obstetricians to make right decision promptly. Thirdly, very important factor is delivery room staff, their professionalism and skills and contributory atmosphere. Fifthly, the most significant factor is the psyche-emotional fighting mood of pregnant women, her self-preparation and psychophysiological preparation to the birth by obstetricians during pregnancy. Women, who made decision for this kind of birth, are required mutual support and getting encouragement from their husbands, friends and relatives. Widely educative activities in mass media by physicians among communities should be encouraged in order to decrease initiation of maternal request for initial cesarean section based on modern life style impact. Dr. Babenko confirm increased rates of both common and repeated cesarean sections during last decade by retrospective analysis of single center data. Percent of vaginal birth after cesarean section is very low, although an annual rate of these activities has increased in clinic during this period. Highly qualified hospital management should include an education of obstetricians and delivery room staff as well as properly psycho-physiologic preparation of pregnant women with scarred uterus to vaginal birth.

9. Dr. Ofer Barnea from the Department of Biomedical Engineering, Tel Aviv University and OB Digital Care ltd, presented his research on fetal head-station amplitude as a new index of labor progress. The primary objective was to identify a continuously measurable physical parameter that indicates effectiveness of uterine contractions and reflects labor progress. This is intended to aid in management of labor, specifically in Pitocin administration. A secondary objective was to use this parameter in a biofeedback scheme to assist the mother in timing and controlling intensity of her pushing efforts. The Birth Track™, continuous labor monitor, was used to continuously and simultaneously measure the instantaneous values of cervical dilatation (CD) and fetal head (HS) station. Measured variables were each delineated into two parts: the long-term mean value – or baseline trend – and the dynamic part that fluctuates within each contraction. The peak-to-peak values of cervical dilatation and fetal head station during a single contraction were designated as cervix dilatation amplitude (CDA) and head station amplitude (HSA), respectively. Contractions frequency, CD, CDA and HSA were plotted as functions of labor progress in terms of head station velocity. CD, CDA and frequency did not correlate well with progress velocity. Best correlation was obtained for HSA. HAS was found to be a good candidate to serve as an index of labor progress. Thus, HSA was found to correlate well with velocity of head station and was therefore designated as a good candidate for indicating effective pushing and progress [17]. This parameter is the focus of our next studies both as an index of progress and as a signal in a biofeedback scheme to help the mother time and control pushing, especially for mothers receiving epidural anesthesia.

10. Dr. Sven Becker from Germany discussed on the controversial issue of the uterine myoma morcellation [18], since today, in advanced clinical environments, more than 70% of all surgeries are being performed endoscopically [19]. The introduction of minimally invasive techniques into the field of gynecology was a technical and ideological struggle. Now previous surgical technique had to undergo similar rigors of scientific scrutiny. Scientific articles often – and politely – ignore the ideological aspects of what can – without much exaggeration – be called a “battle” of surgical approaches. Medicine, being notoriously and for many good reasons conservative, struggled for years against this completely new approach, which required a total re-learning of the most basic techniques for many seasoned surgeons. Step by step, laparoscopy was criticized, belittled, ridiculed – all to no avail as study after study documented clinical equivalency when compared to open or vaginal approaches which never had to undergo similar criticism upon their introduction – often more than half a century in the past. The key surgeries for the success of gynecologic laparoscopy without doubt were laparoscopic hysterectomy and laparoscopic myomectomy. Both surgeries became safe and standard techniques only over the past 10 year with the introduction of power morcellation [20].

His presentation argued that the current "controversy" surrounding power-morcellation is primarily an ideological last stand of those trying to discredit laparoscopy and yet another scandalous down break of the scientific system of rational evaluation of facts in the United States due to the ever-increasing power of the US-trial lawyers maximizing their profits at the expense of scientific progress.

11. Dr. Arthur Bibulyan and coll., from The Republican Institute of Reproductive Health, Perinatology, Obstetrics and Gynecology, The Research Centre of Radiation Medicine, Yerevan, Armenia, discussing on the topic "eliminating role of blood gravitational surgery in reproductology", starting from the commonly known immunimodulatory effect of prolactin. It is known, that ovulatory function of the ovaries is also tightly connected with prolactin [21]. There exists a concept of functional hyperprolactinemia, which is characterized by hyper production of prolactin without pathomorphological transformation of adenohypophysis [22]. Gravitational blood surgery (plasmapheresis) is applied in medicine as an elimination procedure for a relatively long period of time. Yet, in reproductology, it is being widely used for the first time. Authors have carried out gravitational plasmapheresis method performance assessment among women with anovulation and functional hyperprolactinemia. Diagnosis of each woman was verified by MRI examination of hypophysis. Anovulation was confirmed within 3 cycles of folliculometry. Cycle of four plasmapheresis sessions was carried out in the normal saline compensation mode. All examined patients had abrupt decrease of prolactin index after fourth plasmapheresis session; 30 patients (81%) – down to normal values. Further 6-month follow-up did not identify increase of prolactin index. As for ovaries function, it recovered at 28 (75%) women. In authors' experience, the gravitational blood surgery is an efficient method for correction of functional hyperprolactinemia and recovery of ovarian function. These results underline one more time the importance of antigen unloading for the purpose of normalization of functional systems of the organism and confirm their concept concerning the role of antigen overloading within the entire human pathology.

12. Dr. Dragan Belci and coll., from Department of ObGyn, Pula Hospital, Croatia, presented his research on morbidity and chronic pain outcomes following caesarean section [23], since examining long-term outcomes five and more year in women after childbirth performed with different techniques of Caesarean section has been limited and don't provide information on long-term morbidity such a chronic and neuropathic pain. Authors' study compare two group of patients operated with the "Traditional Method" where is used Pfannenstiel incision and patients operated with "Misgav-Ladach" method five and more year after the operation. They were randomized and allocated in two groups each of 50 patients. Widely utilized and validated questionnaires was used to screen for neuropathic pain conditions such as the Leeds assessment of neuropathic symptoms and signs (LANSS) and was paired with results from the clinical exam. When chronic and neuropathic pain was detected, the nerve cause of the chronic and neuropathic pain was the iliohypogastric in all the patients, only in one patient the nerve damaged was the ilioinguinal and iliohypogastric. In 16% of patients in the "Traditional Method" group suffer of neuropathic pain compare to patients in "Misgav-Ladach" group that suffer in 2 % of neuropathic pain. When we compare the results of chronic pain, which comprises pain that persist more than 2 month we find also differences in the two groups of patients. In "Traditional Method" group, 44% refer some element of chronic disturb that persist more than 2 month after CS, in „Misgav Ladach"group 12%. The VAS score also have also better results in „Misgav Ladach"group. Since, many women undergo Caesarean delivery without problems, however some experience significant pain after Caesarean section, persistent pelvic and/or abdominal pain after cesarean section often open diagnostic and treatment dilemma, because most gynecologist know very little about pain and most pain doctors know very little about the pelvis. Persistent pain after abdominal procedure as well as after cesarean section does not imply that anything was done incorrectly at the time of surgery. Surgery is injury and unfortunately, as surgeons cut tissues they cut the small nerves in the skin. In Caesarean section, the surgeons try to avoid the important nerves, however, the ilioinguinal,

iliohypogastric, and genitofemoral nerves, which allow the feel sensations on the abdomen, run quite close to the edge of a caesarean section incision [24]. Estimates of chronic pain following Caesarean or vaginal delivery range from 10–20% while gynecological procedures may be associated with a 5–32% risk. Chronic pain has a major impact on physical, emotional, and cognitive function, on social and family life, and on the ability to work and secure an income and is associated with negative short-term and long-term effects on the mother. Meaningful assessment of long-lasting pain is therefore a more demanding task than assessing acute pain. The explanation of this difference in the results in the study is that the Joel-Cohen principle of abdomen opening used in „Misgav Ladach" differs from the "Traditional Method" where is used the Pfannenstiel incision in the necessity to keep the skin incision higher and the muscle separation further away from their insertion. The incision is also more distant from the anatomical courses of iliohypogastric and ilioinguinal nerve and with reduced risk to be damaged, because the subcutaneous tissue is less disrupted by dissection. By using this method, there is also less tension applied to separate the muscles, with reduced risk of damaging neurovascular structure. Better results about the level of satisfaction in the appearance of the scar may be related to the better pain results in „Misgav Ladach"group. Is obvious that patients who do not notice or notice less abdominal pain, do not take onto the appearance of the scar and cut and also respond on question positively about the overall there health. In conclusion, in their study, authors find better long-term postoperative results five and more year after the Caesarean section in patients that was operated with „Misgav Ladach" compared to the "Traditional Method".

13. Prof. Peter Biro from Institute of Anesthesiology, University Hospital Zurich, CH-8091 Zurich, Switzerland, presented his report on anesthesia for and analgesia after in-utero repair of myelomeningocele. Myelomeningocele (MMC) is a congenital neuroaxial malformation that occurs during embryogenesis and if untreated leads to the postpartum diagnosis of spina bifida [25]. Without early intrauterine surgical tissue coverage, secondary destruction of the exposed neural tissue by trauma or amniotic fluid may occur throughout the pregnancy. Prognosis is dependent on the anatomic level of the MMC, as well as on the occurrence and severity of hydrocephalus and hindbrain herniation. At midterm of pregnancy, there is a narrow time widow to perform the in-utero intervention between the 20th and 25th week of gestation. Surgery consists of hysterotomy, exposure of the fetal lesion and closure of the dura and coverage of the site with myofascial flaps and skin. Tight closure of the uterus preventing loss of amniotic fluid and normal further expansion of the organ is essential. If successfully operated and after conclusion of pregnancy, the fetus was born via cesarean section [26]. The MMC repair site is expected to show a perfectly healed skin, no cerebrospinal fluid leak and a suture that is still in place. Anesthesia for in-utero MMC repair has to shield mother and fetus from surgical stimuli and pain, but also to blunt uterine contractions that would occur due to the tissue damage caused by uterotomy. During the intervention, maintaining stable maternal, uterine and fetal hemodynamics is essential. After conclusion of surgery, fast emergence from anesthesia is mandatory with immediately sufficient spontaneous breathing of the mother, who in spite of the large surgical intervention should have a comfortable and pain free recovery and an intact pregnancy till its termination. The most specific characteristic for this kind of procedure is the simultaneous anesthetic treatment of mother and fetus in the way that the anesthetics given to the mother have to penetrate the placental barrier and to exert their anesthetic effect on the fetus as well. This implies that the anesthetics systemically given to the mother must penetrate the utero-placental barrier with a sufficiently fast kinetics in order to have the fetus well anesthetized during the neurosurgical repair. The in- and outward move of the anesthetics is hereby mainly dependent on the actually invoked and maintained concentration gradients. While general anesthesia with tracheal intubation, infusion of hypnotics, opioids and muscle relaxants is the mainstay during surgery, for the complete perioperative coverage of the mother's needs, an additional low-thoracic epidural analgesia is necessary too. In particular, this regional component is aiming not only to provide postoperative pain reduction and

comfort, but it also has to contribute to suppress uterine contractions that might represent a cause for miscarriage or premature delivery. The general anesthesia plan follows the usual precautions for pregnant women undergoing non-obstetric surgery. This encompasses left lateral tilt, rapid sequence induction, aspiration prophylaxis and a fast onset of neuromuscular blockade. Maintenance of anesthesia must be easily steerable by continuous application of short acting agents. Additionally it must be profound in order to ensure sufficient trans placental diffusion of the drugs and to provide the very essential uterine relaxation [27]. For this purpose, as a main hypnotic we use the inhaled volatile anesthetic desflurane, which is administered at a high dose of two MAC. This measure may cause maternal hemodynamic depression that in turn has to be monitored carefully and treated instantly with vasoactive drugs. The continuous neuromuscular blockade is achieved with rocuronium, however, its action might be boosted and prolonged by the concomitant administration of magnesium. The standardized magnesium infusion during the intervention of 6 g in 30 min followed by 4 g/h is considered very high and has the goal to prevent uterine contractions. This treatment prolongs the effect of the muscle relaxant rocuronium, which in turn must be scavenged at the end of surgery by the use of sugammadex. Otherwise, spontaneous ventilation would not be possible. In order to protect and paralyze the fetus, an additional intramuscular injection of fentanyl and atracurium is given by the surgeon as soon as the fetus is directly accessible. The epidural catheter that has been placed before anesthesia induction remained silent during the surgery, not only because it was not necessary for pain relief, but most importantly because it would have compromised the otherwise fragile maternal hemodynamic stability. Towards end of surgery and anesthesia, however, epidural analgesia is initiated with a low concentrated local anesthetic that is delivered in a patient controlled fashion composed by a background infusion that might be augmented with intermittent bolus upon patient request. This way is ensured that a smooth and pain free transition from general anesthesia to wakefulness is possible and overdosing is avoided. This pain therapy is continued for up to the third postoperative day and gradually supplemented by a variety of enteral medications, which allows the stepwise reduction of invasive methods and return to normal life.

14. Dr. Budanov and coll., from Department of Obstetrics, Gynecology & Perinatology, first Moscow Medical State University, I.M. Sechenov, Moscow, Russia, performed an analysis of the literature on the use of bacteriophages and presented their own clinical observations that compared bacteriophages and antibiotics to prevent infectious complications caesarean section [28]. The study involved 118 women after cesarean section. Aminopenicillins was administered intravenously once 45 patients after the umbilical cord. The “Polyvalent bacteriophage Sekstafag” was administered by spraying into the uterus of 73 women after the extraction of the fetus. The frequency of postoperative infectious complications did not differ between the two groups. After bacteriophage administration there was not a single postoperative wound festering. In his comments, the application prospects of bacteriophages are as selective antibiotic resistance in conditions of chemotherapy, high-precision diagnostics in oncology. The study showed that a multivalent piobakteriofag (Sekstafag) monotherapy is comparable to the effectiveness of antibiotic prophylaxis of infectious complications of cesarean section.

15. Dr. David Chuderland, from GeneSort LTD, Israel, in collaboration with some NESA members, presented her research on promise of next generation sequencing applied to genetic diagnostics of endometriosis, breast, ovarian and colon cancers. Breast cancer is the most common cancer in women, affecting ~12.5% women [29]. Ovarian cancer is the most lethal cancer among women, affecting a~1.4% women [30]. Majority of breast, ovarian and colon cancers are sporadic, but 5-10% of them are due to inherited mutations. BRCA1/2 are the most common causes of hereditary breast and ovarian cancers (~60% and ~30% risk respectively), however, several other mutations in genes as for example: ATM, CDH1, TP53, PTEN, were found in association as well. In addition, lynch syndrome, a common hereditary disease is caused by mutations in MLH1, MSH2, MSH6, PMS2, EPCAM and BRCA1 and found in

correlation with ovarian and colorectal cancers [30]. Health care professionals can be instrumental in identifying women at increased risk through obtaining a comprehensive family history and implementing molecular genetic diagnostic tests. Despite of the familial connection, there is still a need for early detection of ovarian cancer. Endometriosis is a common gynecological condition (10-15% of reproductive age women) in which endometrial tissue (lesions) is present in locations other than the uterine lining [31]. Endometriosis contributes to the development of ovarian cancer and therefore this predisposition is shared (overlapping mutations). Thus, tracking somatic changes in the endometrial lesions, may predict ovarian cancer, creates a unique diagnostic tool. Next-generation-sequencing (NGS) is one of the most significant technological advances in the biological sciences. NGS enables sequencing of millions of bases of numerous genes in parallel and yielding massive amounts of data [32]. Worldwide efforts to catalogue mutations in multiple cancer types are underway. This process likely leads to new discoveries, and may be translated to new diagnostic tools and personalized medicine. In correlation with ovarian and colorectal cancers, health care professionals can be instrumental in identifying women at increased risk through obtaining a comprehensive family history and implementing molecular genetic diagnostic tests. Despite of the familial connection, there is still a need for early detection of ovarian cancer. Next-generation-sequencing (NGS) is one of the most significant technological advances in the biological sciences. NGS enables sequencing of millions of bases of numerous genes in parallel and yielding massive amounts of data. Worldwide efforts to catalogue mutations in multiple cancer types are underway. This process likely leads to new discoveries, and may be translated to new diagnostic tools and tailored medicine.

16. Dr. Alex Churganova and coll. from Department of Obstetrics, Gynecology & Perinatology, 1st Moscow Medical State University, I.M. Sechenov, Moscow, Russia, studied the usefulness of morphological and functional uterine scar after obstetrical surgery [33] using fibrin cryoprecipitate (FC), by experimental and clinical studies. The main group of experimental research included 16 experimental study of female rabbits, which during the operation of the CS was introduced FC. The comparison group consisted eight females rabbits, FC have not been applied. Experimental animals were conducted surgical delivery, then hysterectomy on day 6 and histological examination of rumen micro preparations (hematoxylin-eosin, van-Gieson, microscopic morphometry). The clinical study included 120 patients (the main group FC – 75 patients, a comparison group of 45). In their results, patient groups did not differ significantly by age, somatic their obstetric and gynecological status, pregnancy and indications for operative delivery. In the postoperative period for women were executed echographic, Doppler studies and amplitude-color Doppler sonography for 3 and 6 days after surgery and, after 2 months, by three-dimensional ultrasound. In their conclusions, the FC reduced the severity of the inflammatory response, increased the activity of anti-inflammatory immune response, and accelerated the repair processes and neoangiogenesis. The FC application during caesarean section can increase the quality of wound healing, provides a complete formation of the scar on the uterus, leading to a decrease in postoperative complications.

17. Dr. Sergio Haimovic from Spain presented the feasibility of a new two-step technique for office hysteroscopic resection of submucous myomas, by office laser treatment [34]. He enrolled patients in reproductive age with symptomatic lesions sonographically diagnosed as single mainly intracavitary (G1 or G2) myoma <4.0 cm, Patients underwent a two-step hysteroscopic procedure, which included preparation of partially intramural myomas with incision of the endometrial mucosa and the pseudocapsule covering the myoma in the first step, and excision of the myoma by means of diode laser four weeks later. All procedures were performed on an outpatient basis and without anesthesia. The two-step myomectomy technique was successfully performed in 79.1% patients. All myomas until 18 mm were successfully enucleated as compared with 85% of 19–30 mm, and 0% of _30 mm ($P < 0.001$). In addition, myomas located in the anterior/posterior walls and those located in the fundus/lateral walls were enucleated in 87.9% and 50% of cases,

respectively (P = 0.020). The initial type of myoma did not influence success of surgery. Author concluded that the two-step hysteroscopic myomectomy carried out as an outpatient procedure and without anesthesia was feasible for the excision of symptomatic deep submucous fibroids.

18. Dr. Arben Haxhihyseni from Gynecologic Service, Regional Hospital Durrës, Albania, reported his surgical experience, studying the safety and the advantages of transvaginal sterilization [35] as a novel technique in Albania in routine use, for the first time in 2007. A prospective study was conducted from 2007 to 2013, at his hospital included 39 women at a sexually active age that had in their medical history more than two voluntary abortions and had reached the number of children they wanted to have. All cases fulfilled the preliminary consensus together with their husbands. All were presented with a detailed explanation of the operative technique, advantages and the irrevocability of salpingectomy. In the results, authors reported 39 cases with culdotomic trans-vaginal sterilization selected by excluding pelvis adherences by medical history and by vaginal and ultrasound examination. The average time of culdotomy intervention was 2.6 minutes and for salpingectomy was 13.9 min. The average quantity of blood loss was 65 ml. The average of stay of hospitalization was one day. The full, complete rehabilitation to normal vital activity was 6 days. There were no noticed complications. Author concluded that transvaginal tubectomy is a new, safe and precise technique that has its advantages and must be spread throughout Albania as a simple family planning method. Its cost effectiveness also justifies its application, as a technique that does not need specific equipment but it is required a surgical professional qualification.

19. Prof. Udo B. Hoyme from Department of OB/GYN, St.Georg Klinikum, Eisenach, Germany, reported his study on the use of laparoscopy in chlamydial salpingitis [36] and pelvic inflammatory disease (PID) [37]. PID in general and salpingitis in particular comprise a broad polymicrobial spectrum of causative agents lead by Chlamydia trachomatis (CT). In diagnosis of salpingitis, laparoscopy is considered as gold standard. Between January 1994 and December 2010 1247 sexually active women with pelvic pain and/or suspected PID were laparoscoped within less than 3 hours after admission in order to establish diagnosis and to obtain the relevant specimen for microbiological evaluation. 363 of the 1247 women were diagnosed to suffer of salpingitis (29.1 %), 103 of the latter due to CT (28.4 %). In detail, 55 women with salpingitis were tested positive for CT from the cervix (15.2 %), however, in 47 other patients exclusively the tubal swab was diagnosed positive for CT (12.9 %). The effectiveness of CT screening focused on the prevention of PID has been recently challenged. In this analysis, 13 % of patients have developed a PID with a CT infection detected just in the Fallopian tubes without any evidence of cervical infection. These patients and their risk of an adverse reproductive outcome could therefore not be detected and estimated with any cervical swab or urine screening programmed. CT is present in salpingitis patients with high prevalence, but it is impossible to proof that by means of a single cervical or urine test, leading to a strong support for more liberal use of laparoscopy. The difficulty in gaining access to the Fallopian tubes is the major obstacle in significant microbiologic evaluation of salpingitis in general and in particular of the chlamydial entity. A large proportion of CT positive cases must be missed not performing laparoscopy and endoscopic sampling. No evidence indicates so far that CT screening can directly reduce infertility, the only important endpoint.

20. Dr. Peter Husar from Technische Universität Ilmenau, Biosignal Processing Group, Germany, proposed a new method to estimate both, the fetal heart rate and the fetal arterial oxygen saturation non-invasively. High power LEDs are used as a light source to illuminate the abdomen of the pregnant women. A photo detector gathers the reflected light for further processing. Both are applied at the surface of the abdomen without the need of any invasive procedure. An FPGA based embedded system controls the LEDs and acquires the data with the help of a high-resolution analog to digital converter. The photons gathered by the detector traveled through both, maternal and fetal tissue layers. With this non-invasive measurement setup, the

acquired Signal consists of maternal and fetal components. Enhanced signal processing techniques are necessary to separate fetal and maternal pulse curves and finally to determine fetal arterial oxygen saturation and heart rate. Within his investigations, he showed the feasibility of the method by various simulations of the photon propagation in the abdomen of a pregnant woman. The focus was on the penetration depth and signal strength at the detector. To successfully determine the fetal oxygenation, it is necessary to ensure a sufficient penetration depth to reach fetal vessels and to have an adequate amount of light reflected back to the detector at the surface. His simulations indicate that this can be reached by properly placing the light source and photodetector at the surface of the abdomen. This concept represents a novel method for examining the fetal well-being. Non-invasive measurements of both, fetal oxygenation and heart rate have the potential to become a standard procedure for prenatal fetal monitoring, instead of cardiotocography.

21. Dr. Anatoly I Ishchenko and coll., from First Moscow Medical State University, Clinic of Obstetrics and Gynecology, Moscow, Russia, assessed in the tactics of diagnosing and treatment in cases of deep endometriosis [38] in a prospective investigation. Authors performed surgical treatment of patients with various forms of deep endometriosis between 2002 and 2014. More frequent we observed pelvic endometriosis of peritoneum and uterine ligaments in 43%, endometriosis of ovary in 32%, rectovaginal endometriosis in 5%, heavy deep endometriosis in 2% and endometriosis of postoperative scar in 0,5% after cesarean section and episiotomy. In order to put correct diagnosis they used ultrasound scanning and MRI of affected region. All patients underwent surgical treatment. During the surgery endometriosis was excised, local tissues were restored. Until now, authors reported no cases of recurrent endometriosis in the area of surgery, with, also, no cases of postoperative hernia. In all cases, patients have no severe pain syndrome, as it was before surgery in the majority of cases. Authors believe that all patients with deep endometriosis need surgical treatment, which is usually a very difficult task. This comes from deep infiltration of local tissues by endometriosis, surgeon should be aware of real size of infiltration, and vessels, nerves or even pelvic organs, which can fixed near of inside the infiltrate. Authors believe the usage of ultrasound scanning and MRI of affected area is necessary in all cases.

22. Prof. Oktay Kadayifci from Turkey discussed on innocent obstetrics and gynecology and unfair accusations. Research shows that, in Turkey, the possibility of ob-gyn doctors facing lawsuits is 20% higher than other medical doctors and most of these cases are related to birth complications. The lawsuits of ob-gyn doctors unrelated to birth complications are same as other medical doctors. This indicates that, the reason behind this is not the incompetence of the doctors, but the challenges of the delivery process. An ob-gyn doctor has two patients to take care of the mother and of the baby. Sometimes there are conflicts of interests between the mother and the baby and it is not possible for the doctor to get an informed consent from the baby. When they grow up, babies can sue the doctor for any damages sustained during the delivery. Some of the decisions taken by medical institutions forcing the doctor to use evidence base medicine instead of experience based medicine [39]. For example, in the United States, it is not possible to deliver the baby with C-section upon the request of the mother, but in Turkey, laws are more flexible and a mother can choose to have a C-section. As a result, although Turkey is a developing country, birth-related maternal death is less than USA [8]. Recently, natural childbirth is encouraged including delivery at home. On the one hand, birth is considered a team effort because a complication that threatens the mother can take place at any time during the delivery. There is a general opinion among the population that anything that is natural is better. However, flooding and earthquakes' are also natural. Most of the diagnostic tools, such as that of fetal monitoring are not very dependable but we cannot do without them either. Those tools can both save the doctor but it can also endanger the physician. On the other hand, there are lawyers who follow medical malpractice closely. Some of them are medical doctors who have studied law and have become experts on cerebral palsy. These lawyers are called cerebral

palsy lawyers. There are maternal death and autism lawyers as well. The research shows that maternal deaths caused by medical malpractice are in the third place [40]. Another important point is the amount of compensation that can be received, because of these cases. For example, in cerebral palsy cases compensation can reach as high as $100,000,000. This can be very tempting to patients even if they had a good experience with the doctor. Patients are often told that the insurance, not the doctor will pay this amount. In addition, the patient does not deal with lawyer fees so all the consultations are free and there are no costs for them. Because normal delivery is a retrograde diagnosis, a complication, which can threaten the life of the mother and the baby, can take place at any time during and after pregnancy as well as at time of delivery. In ob-gyn practice, it is necessary to have a patience that does not lead to lethargy and agility that does not lead to panic. Yet the difference between them is very small and not well defined. What happens if the mother does not allow the intervention from the doctor? Especially when there is a problem with the baby such as fatal distress, cord prolapse, uterine rapture, etc. The doctor may not want to follow such a patient but until a new doctor is found, s/he has to do provide the necessary care. In these instances, in order to avoid getting into trouble, the doctor can call a judge. However, time is often very limited; the judge does not have any medical knowledge, and does not have time to seek advice from an expert. During this time, the baby can have brain damage. If that is the case, who is responsible for the damage? The current approaches focus on preventing medical malpractice cases only and fail to address the needs of all the parties involved.

23. Dr. Petra Kaščák et coll, from Department of Obstetrics and Gynecology, General University Hospital Trenčín, Slovak Republic, presented a research on the rate of cesarean deliveries [9,10], possibly to reduce with some features. In a retrospective study, they analyzed the cause of the low cesarean rate in Trenčín hospital, which is the fourth largest maternity in Slovakia, whereas the percentage of cesareans here is the second lowest. A retrospective analysis was done on the indications leading to a CS in the years 2012 – 2014. For the years of 2012 – 2014, hospital reports a total of 5,875 deliveries, of which 848 were ended by CS (14.4 %). Of these, 32.7 % accounted for elective cases, other surgeries fall within emergencies. During this period, they reported 85 instrumental vaginal deliveries (1.44 % of all deliveries). 188 vaginal deliveries (3.2 %) followed a previous cesarean (VBAC – vaginal birth after Caesarean). 266 of the newborns were delivered in a breech position, of which 75 were spontaneous deliveries (28.2 %). Women within 35 – 40 years of age (991 deliveries) went into labor spontaneously in 80.1 % of cases and women over 40 (171 deliveries) had spontaneous deliveries in 75.4 % of cases. 1,002 of deliveries were induced (17 %), of which 86.8 % were vaginal deliveries. 121 cases (2 %) were twin deliveries, of which as many as 75 women underwent a cesarean (62 %). 130 pregnancies (2.2 %) were the result of *in vitro* fertilization. 40 of them (30.8 %) were delivered by cesarean. As many as 577 of babies (9.8 %) weighed over 4,000 grams, while 492 women in this group (85.3 %) had a vaginal delivery. 521 deliveries were premature (8.9 %), while as many as 38.6 % ended in cesarean. Only 19 cesareans were performed based on non-obstetric indications (2.2 %), while in five women the cesarean was a repeated case. In the NTSV group (Nulliparous, Term Singleton, Vertex) there were only 237 cesarean sections (9.3 %) performed in 2,545 women (43 %). Perinatal mortality in our clinic was 4.16 ‰ in this time. The CS rate in the Slovak Republic increased from 12.7 % in year 1997 to 30.8 % in year 2013. Perinatal mortality rate dropped from 7.6 ‰ in year 1997 to 4.8 ‰ in year 2013. The CS rate in our department was 12.5 % in 1997 and 14 % in 2013. The maximum CS rate of 19 % was reached in 2009. Perinatal mortality was 3.9 ‰ in 2014. The percentage of performed CS in 55 maternities in Slovakia ranges between 11.8 % and 52.5 %. Yet there is only one private maternity clinic operating in our country, which reported the CS rate of 25.2 % in year 2013. Thus, the analysis makes it clear that the size of the particular maternity clinic is not a decisive marker for the number of CS performed. Based on the data gathered authors believe that the key factor is the philosophy of the workplace and the respect for when the indications signal a surgical termination of pregnancy. They confirmed a higher likelihood of cesarean in

women over 35 or 40 years of age, although we do not consider age to be an ample CS indication. Chances of having a cesarean are increased after IVF and with preterm delivery. Neither induced labor, nor a child´s weight of above 4,000 grams is an indication for CS in our facility. A key factor that determines the overall percentage of cesareans in the workplace is the proportion of CS within NTSV. By reducing the number of CS in this group of women, they also managed to reduce the overall percentage of CS in the observed period. If an obstetric department is truly interested in reducing their CS rate, authors believe that by respecting the EBM they must succeed. As a principal factor, they consider the proportion of CS in the NTSV group and the reduction of CS based on non-obstetric indications. Concluding, the CS rate can be maintained on a low level with excellent perinatal outcomes when respecting vaginal birth as the best alternative to terminate the pregnancy for both the mother and child.

24. Prof. Ioannis Kosmas, from University of Ioannina, Greece, discussed on the complications that are associated with IVF practice. Although the majority of complications are from ectopic pregnancy [41] and ovarian hyper stimulation syndrome (OHSS) [42], there is numerous serious complications presented in literature, as rare case reports. Complications are clustered according to a specific medical intervention or by the organ or system affected. Certain complications like placenta previa and twin monochorionicity are presented with higher probability in pregnancies after IVF than normal pregnancies. Where pathophysiological explanation exists for a complication, it will be discussed in a concise manner. In addition, mode of treatment, were available, for these complication will be presented. Oocyte retrieval procedure has been implicated in ureteral injury, infection with Staphylococcus, mono/bilateral ovarian abscesses, pelvic pseudo aneurysm, massive hematuria with bleeding pseudo aneurysm ovarian rupture with hemorrhagic shock, bleeding in patients under anticoagulant therapy. In inaccessible ovaries through significant ovarian displacement, transabdominal ultrasound oocyte retrieval could be performed thus increasing the risk of complications. In addition, oocyte retrieval may be used for aspiration of hydrosalpingeal fluid. Intrauterine subhorionic hematomas have been observed in high probability in IVF pregnancies, frozen thawed embryo transfer and blastocyst transfer. An association of intrauterine hematomas in first trimester of pregnancies after IVF was associated with increased probability of preeclampsia, postpartum hemorrhage, placenta previa, oligohydramnios and preterm delivery before 37 wks. of gestation. Adnexal torsion after IVF could take place earlier or later in pregnancy or in a mixed manner, and usually is managed by laparoscopic untwisting. Torsion episodes may take place more than one time. Bilateral megalocystic ovaries remained until the cesarean section while a degree of hyper stimulation remained. Neurologic and psychiatric complications have been presented as rare case reports after IVF therapy. Mild stimulation psychosis has been observed with the use of clomiphene and bromocritine. From the other side ovarian stimulation for embryo banking may trigger respiratory failure in patients with mixed connective tissue disease. OHSS is considered as one of the main complication of ovarian stimulation. It starts when HCG injected for follicular maturation for ovocyte pick up. There are manifold pathophysiologic explanations mainly the elevated serum VeGF that leads to fluid leakage. Different protocols have been suggested to reduce it, mainly GnRH antagonist protocols accompanied with low dose gonadotropins and GnRH agonist triggering, with significant reduction but not extinction of the syndrome. When expressed, it is indicated by ovaries enlargement, fluid leakage from the intra-vascular bed to the third compartment, edema, ascites even hydrothorax and hydro pericardium. Thrombosis at various sites may arise also. Increasing plasma osmotic pressure by intravenous albumin administration and intravenous heparin administration prevents complications. In addition, when large ascites is observed, then fluid aspiration and intravenous albumin administration allows the patient to discharge. Also, cabergoline, a partial VEGF- 2 receptor inhibitor, shows promising results. OHSS has been implicated in nephritic syndrome, after ovarian hyper stimulation. Small bowel obstruction has been observed after ovarian torsion and ovarian hyper stimulation. Increased paternal age has a negative effect in

sperm quality and increases the rate of disorders like autism, schizophrenia, bipolar disorders, and childhood leukemia in the progeny. Ectopic pregnancy is associated with IVF practice. Tubal factor with or without hydro salpinx and prior ectopic pregnancy are considered the major causes. Endometriosis, uterine factor and diminished ovarian reserve were some of the less but important factors. Abnormal embryogenesis and DNA aneuploidy was associated with tubal implantation in 33% of patients. In general, when higher implantation embryo potential was present, EP rate was minimal. As a result, donor oocytes do not attribute to more ectopic pregnancies. Heterotopic and cervical pregnancies remain low and presented as case reports. Heterotopic pregnancies have been present in various combinations as: 1) Triplet heterotopic pregnancy a) in a previous caesarian scar and intrauterine pregnancy b) a tubal singleton and two intrauterine pregnancies and an ovarian abscess c) bilateral tubal and intrauterine pregnancy 2) Cornual pregnancy a) recurrent cornual pregnancy b) cornual pregnancy and twin intrauterine pregnancy 3) heterotopic pregnancy with intrauterine dizygotic twins after blastocyst transfer 4) heterotopic cervical pregnancy a) intrauterine and twin cervical pregnancy b) cervico-istmic pregnancy 5) Heterotopic pregnancy in parallel with ovarian hyper stimulation syndrome 6) heterotopic pregnancy ruptured after spontaneous abortion. Examining IVF practice differences and their attribution to ectopic pregnancy it was evident that a frozen-thawed single blastocyst transfer significantly reduce EP rates when compared with two blastocysts transfer. No difference in ectopic pregnancy rates was observed when blastocyst transfer compared with day 3 embryo transfer. Patient with hydro salpinx who undergo oocyte donation have higher ectopic pregnancy rates than patients in the same program without hydro salpinx. The rate of ectopic pregnancies was similar between donor and IVF cycles when tubal factors were absent. The use of ICSI is not associated with EP while male factor infertility was associated more with EP in specific populations. Whether assisted hatching contributes to EP, remains controversial. No difference in ectopic pregnancy rates is observed, with different distances of embryo deposition from the uterine fundus (10-15 mm or < 10 mm). From the other side when consider tubal reanastomosis, patients who chose the microsurgical approach, show higher ectopic pregnancy rates after a single IVF trial. When robotic tubal reanastomosis compared with open reanastomosis, more ectopic pregnancies have been observed. Higher incidence of ectopic pregnancies was observed when previous tubal sterilization was reversed by laparoscopy than open microsurgical reversal. Although thromboembolic events should be considered as rare complications, portal vein thrombosis, jugular vein thrombosis, subclavian vein thrombosis, internal and external jugular veins and right brachiocephalic vein thrombosis have been observed. When it comes to laboratory techniques PGD is associated with lower gestational ages but not with intrauterine growth restriction and low birth weight. When G-1 PLUS v5 embryo culture was used, with advanced production date, then these media usage are associated with lower birth weight. It has been suggested that protein source/HSA has a significant effect on singleton newborns. From the other side, oocyte vitrification does not increase adverse outcomes in children conceived with vitrified oocytes. These are some of the complications presented. Most of them are presented as case reports. Clinician should be aware of the variability of presentation and clinical picture and associate the complication with IVF. Minimal access methods should be used to overcome the anatomical cause while physiological support should be used to overcome IVF stress.

25. Dr. Michail I. Kovalev and coll., from Department of Obstetrics and Gynecology, First Moscow State Medical University named after Sechenov, Russia, presented their systematic review on evolution of cesarean section technique. They analyzed cesarean section more diffused techniques, in order to propose and optimal layout of cesarean section stages from skin incision to skin closure. Today cesarean section has becomes the most performed surgical procedure in the world [7], although its rate is lower than 10% in several developing countries. Increasing amount of cesarean section has been producing medical, social and economic problems. Nowadays cesarean section has

routinely used and is replacing obstetrician skills concerning vaginal birth and other delivery techniques. There is a new indication for cesarean section called as “cesarean section on maternal request”. Although several cesarean techniques have been designed and their comparative studies were published, mostly obstetricians are used to perform cesarean section by their own local technique with variations between hospitals, medical schools and countries. It is difficult to compare outcomes of cesarean sections due to wide range differences of its technique in order to make decision for further vaginal delivery or repeat cesarean section. Therefore, in this study authors reviewed variations of cesarean section technique concerning all of its stages including laparotomy incisions, uterine entry, placenta removal, uterine wound suturing, peritonisation and abdominal wall closure.

26. Prof. Vladislav I. Krasnopolsky and coll., from Russia, discussed on consequences of surgical activity in current obstetrics, since today most of obstetricians considered cesarean section as the rescue procedure, as a legal liability against poor delivery outcome, when obstetricians can refer that all possible medical aids were performed including cesarean section to save lives both mother and child. Main consequence of surgical activity is that nowadays obstetricians lost skillful labor management and application of obstetrical forceps showing professionalism of obstetricians in the past. It reflects especially on the rate of vaginal birth after previous cesarean section where very few obstetricians can take decision for vaginal delivery. They have overviewed the main problems associated with increased rate of cesarean section [8-10]. It seems the main reason of repeat cesarean sections is the uterine scar dehiscence after previous cesarean section, which can produce rupture of the uterus through dehiscence scar during pregnancy [43] or delivery in about 70% of cases. Authors believed that disturbances of wound healing and uterine wall repair are the main causative factor for scar deficiency due to: 1) inappropriate surgical procedure during abdominal birth; 2) inaccurate suturing; 3) pathological bleeding; 4) inflammation of uterine wall; 5) postpartum intrauterine procedures (repeat curettage of uterine cavity). Uterine wound reparation disturbances are required early diagnosis subsequently early onset of optimal therapeutic procedures. In a case of delayed diagnosis of uterine wound reparation disturbances with inappropriate massive antibiotic treatment the uterine scar dehiscence can develop and sometimes-radical surgical procedures needed in order to save patients life. Authors apply ultrasound and hysteroscopy for early diagnosis [44]. In cases of endometritis and development of uterine scar dehiscence after anti-inflammatory treatment and after completely relief of inflammation, we take decision repeat laparotomy for secondary suturing of uterine incision. High cesarean section rate and possibilities of uterine scar dehiscence development required changes in principles of puerperant’s discharge from the hospital and their outpatient regular medical check-up, which can help to determine the delayed onset of uterine scar dehiscence development. Today an important issue is a planning of further pregnancy after previous cesarean section. It is very important to have comprehensive information concerning uterine scar condition and possibilities of correction of scar dehiscence (ultrasound, hysteroscopy and reconstructive surgery of lower uterine segment). Uterine scar pregnancy is an extremely dangerous condition-related with previous cesarean sections and last 3 years we have observed 24 cases of this condition. Authors observed following clinical outcomes: spontaneous reduction; abortion during the first and second trimesters; preterm and term pregnancies with placental presentations and /or placental rotating. Among their patients undeveloped at 5-6 weeks of pregnancy with vacuum aspiration was observed in 4/24 women with uterine lower segment restoration. Hysterectomy was performed in 2/24 cases with 14-16 weeks of pregnancy. A restoration of lower uterine segment was performed in 1/24 case after expulsion of embryo at 7 week pregnancy through defect in the uterine scar dehiscence into abdominal cavity. Preterm delivery by cesarean section was performed in 8/24 cases due to bleeding from placental presentations at 23-24 weeks of pregnancy with hysterectomy in 3/8 cases and newborn’s dead in 4/8 cases. Term abdominal pregnancy was observed in 7/24 cases and hysterectomy was performed in 4/7 among them.

Authors recommend inpatient observation in all cases of uterine scar pregnancy with weekly ultrasound control on deepness of placenta invasion into uterine scar tissue. Decision concerning pregnancy termination should be made immediately in a case of involvement of bladder, in women with uterine scar pregnancies independently of gestation age.

27. Dr. Daniel Laqua and coll., from Technische Universität Ilmenau, Biosignal Processing Group, Germany, presented an investigation on pulsating phantom for non-invasive fetal plethysmography, since arterial oxygen saturation of the fetus is an indicator for its health status [45]. During labor and delivery, the transabdominal non-invasive fetal pulse oximetry [46] is a new method under research that may minimize the risk for mother and fetus. Compared to other existing invasive examination methods there is no risk of infection. Authors developed a physical-like phantom to investigate new sensor circuits and algorithms of a non-invasive diagnostic method for fetal pulse oximetry. The developed artificial vascular system consists of two independent fluid cycles representing the maternal and fetal vessel system. A pre-pressure and an artificial vascular system reproduced the arterial pulse waves. Each pulse wave can be emulated by a digital controlled proportional valve, an adjustable viscoelastic element, and a resistance. Furthermore, the system is equipped with several sensors: pressure transducers, optical sensor units, and a coplanar capacitive sensor. Transmission and reflection measurements have shown that the fetal and maternal pulse waves can be reproduced qualitatively. The measured light represents the transabdominal-modulated signal on an abdomen of a pregnant woman and will help to understand the modulation process and to develop new innovative signal processing strategies for non-invasive fetal plethysmography.

28. Dr. Lidia S. Logutova and coll, from Moscow Regional Research Institute of Obstetrics and Gynecology, Moscow, Russia, presented their research on ultrasound features of the symphysis pubis in women during pregnancy [47], with and without symphysitis, evaluating ultrasound structural changes in the symphysis pubis [48] in-patient with manifestations of symphysitis. In this prospective non-randomized study, 98 women were investigated by ultrasounded. Among of them clinical manifestations of symphysitis in 15 pregnant women with full-term pregnancy, 48 women without clinical manifestations of symphysis pubis disorders (30 full-term pregnancy and 18 puerperas), 30 non-pregnant reproductive age women without pathological changes in their symphysis pubis. Transabdominal convex multi frequent ultrasound 2-6 MHz and linear transducer 5-12 MHz performed frontal and sagittal scanning measurements and pelvic radiography was used as a referent assay. In their results, ultrasound features of both frontal and sagittal ultrasound scans were described with illustrations during pregnancy and especially in pregnant women with manifestations of symphysitis. Authors concluded that internal structural changes of symphysis are very important diagnostic sign for diagnosis of symphysitis. Changes during pregnancy mostly manifested as increased ultrasound density in fibroid part of cartilaginous disk. Clinically manifested symphysitis has heterogeneousness structure by ultrasound with decreased ‘echo’ density.

29. Prof. Antonio Malvasi from the Department of Obstetrics and Gynecology, Santa Maria Hospital, Bari, Italy, presented a surgical study on cesarean myomectomy [49], as a revolutionary technique to safely remove fibroids during caesarean section. Since the more recent medical literature indicates that caesarean myomectomies are probably safer if performed for justified indications, by experienced surgeons and by using meticulous tissue handling techniques who avoid serious or life-threatening complications, there is benefit of one surgery, rather than two operations, as only one scar is produced. These situations are a challenge to the obstetrician and carry a legal dilemma because the patients need to be adequately informed, prior to surgery, as regarding size and location of myomas during CS, and the possible complications to which a concomitant enucleation may lead. Even if any operation to be successful always needs of adequate patient preparation, of careful surgical planning and of correct intra and postoperative management of complications. After the development of well-

detailed technique, the intracapsular myomectomy, successfully performed during laparoscopy in non-pregnant women with single or multiple fibroids, author decided to study their methods of myomas removal during CS, exploring its outcomes. During the years 2005-2011, an international research group, prospectively, evaluated the surgical outcome of intracapsular myomectomy during CS, in University affiliated Hospitals, by a prospective case-control study on 68 patients who underwent intracapsular cesarean myomectomy, compared with a control group of 72 patients with myomatosic pregnant uterus who underwent cesarean section without myomectomy [50]. Since obstetricians often confronted with fibroids while performing CS and face the dilemma of how they should be managed, considering the cost-benefit of our study, author affirmed that intracapsular cesarean myomectomy procedure could be performed with some confidence, without affecting adversely the postoperative course and clinical outcomes.

30. Dr. Igor B. Manukhin and coll, from Moscow State Medical University, Russian Academy of Medical Sciences, Moscow, Russia, presented a study on cesarean section in women with high-risk pregnancy and risk of postpartum endomyometritis, since puerperal infection remains a leading cause of maternal morbidity and mortality [51]. There are factors identified as a causative risk for initiation of infection in the postpartum period after delivery [52]: obesity, diabetes mellitus, anemia, corticosteroid therapy, duration of ruptured membranes, urgency of operation, duration of surgery, type of stitching the uterus, method of placenta removal, blood loss. Therefore, aim of this study was to determine the role of Foley catheter for cervical ripening and vaginal microbiota disorders as independent risk factors of postpartum endomyometritis after an emergency caesarean section. By a retrospective study, authors included 205 puerperants, including 75 women, who suffered Foley catheter application for induction of the cervical ripening, 97 women with disturbed vaginal microbiota and 33 women with combination both of these factors. Endomyometritis was manifested with fever ≥38 °C beginning > 24 hours or continuing for ≥ 24 hours after delivery in the absence of other causes for fever, fundal tenderness and vaginal discharge with an unpleasant odor. Changes of the vaginal microbiota were evaluated by degree of lactobacillus grade and patients with changes IIb and worse were included. The chi-square test was applied for statistical analysis. In the results, endomyometritis after cesarean section was detected in 8/75 women after Foley catheter application, in 11/97 women with significant IIb and worse changes in vaginal microbiota, in 6/33 women with combination of these factors. Both isolated factors (Foley catheter application and changes in vaginal microbiota) were associated with endomyometritis risk respectively OR 2.1; 95% CI 0.9-4.9 and OR 2.4; 95% CI 1.2-5.2, whereas combination of these factors dramatically increased Endomyometritis risk OR 4.0; 95% CI 1.5-10.4. Concluding, a dramatically increased risk of endomyometritis after cesarean section by urgent indications was observed in puerperants with Foley catheter application for induction of cervical ripening during delivery in parturients with vaginal microbiota disorders.

31. Dr. Alessandro Favilli and coll., from Department of Obstetrics & Gynecology, University of Perugia, Italy, presented their investigation on standardizing hysteroscopic myomectomy by intracapsular cold loop technique on submucous fibroids [53]. Hysteroscopic resection of submucous fibroids should be a simple, well-tolerated and effective procedure and ideally accomplished in in only one surgical step. Numerous techniques for the hysteroscopic treatment of submucous myomas have been described, but the cold loop intracapsular myomectomy was conceived with the aim of preserving muscle fibers in the myometrium, providing greater safety for patients, and ensuring the complete removal of the myoma, without causing thermal damage to the myometrium [54]. The cold loop intracapsular myomectomy is articulated in three different steps: 1. slicing of the intracavitary component of myoma; 2. enucleation of the intramural component of myoma by the “cold loop”, which is inserted into the cleavage plane between myoma and its pseudocapsule to disconnect by blunt dissection the connective fibers anchoring the myoma to the myometrium; 3. slicing of the intramural component of myoma, which becomes an endocavitary neoformation, safely

removable by slicing, without damaging the surrounding myometrium. Several studied have demonstrated that the use of a cold loop in resectoscopic myomectomy is associated with a low rate of minor intraoperative complications, an absence of major complications and a lower rate of intrauterine adhesions in comparison with the reported literature. Moreover, this technique allows accomplishing the treatment in one surgical step. The cold loop hysteroscopic intracapsular myomectomy represents a safe and effective procedure for the removal of submucous myomas with intramural development, while at the same time respecting the anatomic and functional integrity of the myometrium. This could be of primary relevance with a view to fertility and future pregnancies.

32. Dr. Jorge Jiménez Cruz from Department of Gynecology and Obstetrics, Jena University Hospital, Friedrich-Schiller-University Jena, Germany, presented the PAIN OUT, an international project to improve perioperative pain management, also utilized in obstetrics and gynecology. The PAIN OUT (Improvement in Postoperative Pain Outcome) is a multi-national quality improvement and research project that provides a unique and user-friendly web-based information system (http://ec.europa.eu/research/health/public-health/clinical-outcome-into-practice/projects/pain-out_en.html). It aims to improve treatment of patients with post-operative pain by means of standardized data acquisition, analysis of quality and process indicators, and feedback and benchmarking. The project focusses on patient-reported outcomes, using the short International Pain Outcome questionnaire, which is validated in more than 10 languages. From 2009-2012, it was funded by European Commission's seventh Framework Programme. Since 2013, PAIN OUT is being continued in cooperation with professional societies, *e.g*. the International Association for the Study of Pain (IASP). The German partner project, QUIPS, is run by the societies of German anesthesiologists and surgeons. Using registries and benchmarking tools like PAIN OUT or QUIPS makes possible to improve quality of treatment for postoperative pain within a realistic and reproducible process. Using PAIN OUT for this evaluation was helpful in three aspects: convincing all stakeholders that there was a chance for improvement, demonstrating effectiveness of the implemented strategies and consolidating the new strategies as new standards. PAIN OUT turned out to be a practicable instrument for valid process and outcome data assessment in clinical practice. However, apart from medical issues, it was challenging to get the whole team relevant for pain management (surgeons, anesthesiologists, theatre and ward nurses) convinced that processes has to be changed. Therefore, we set up a formal change management approach, consisting of education, providing everybody with quality data, discussion of potential improvement strategies and implementation steps. Specifically, fear of work overload was taken into account by choosing a relatively simple, standardized intervention. One key step was to provide surgeons with prefilled ropivacaine syringes handed over by the theatre nurse (instead asking surgeons to fil the syringe by themselves). PAIN OUT was very helpful in this process by repeatedly providing all team members with valid, up-to-date information of achieved improvements from patients' perspective. At the end of this project, the department members were convinced of its success, and it was consented to spread the improvement process to further surgeries as caesarean section and breast surgeries achieving similar results (reduction of pan intensity, opioid sparing, less nausea). More information on PAIN OUT: www.pain-out.eu.

33. Prof. Liselotte Mettler, from University Hospitals Schleswig-Holstein, Kiel, Germany, presented a lecture as a workup of all localizations of human ectopic pregnancies, reviewing all diagnostic and therapeutic modalities from the non-medical conservative method to the nonsurgical-medical options through to a surgical laparoscopic approach for the treatment of ectopic pregnancies [41].

34. Dr. Giorgia Monterossi from Division of Gynecologic Oncology, Department of Women and Child Health Catholic University of the Sacred Heart, Rome, Italy, showed the first results of the new European telesurgical system, the telelap Alf-X [55]. They started by assessing the necessary training to use this new platform, the feasibility and safety in a minor invasive

gynecologic procedures like adnexal surgery, in a major procedures like hysterectomy, targeted to analyze 146 heterogeneous series of gynecological procedures. Thus, between September 2013 and May 2014, 146 patients were enrolled for surgery by Alf-X system. The median age was 52 years (range 19–79), median BMI was 23.7 (range 17.3–34.0 kg/m2). Sixty- two patients (32.5 %) underwent to salpingo-oophorectomy or cyst removal (Group A), four patients (2.7 %) myomectomy (Group B), 46 patients (31.5 %) total hysterectomy (Group C), and 34 (23.3 %) endometrial cancer staging (Group D). Median docking time was 7 min (range 3–36). Median OT was 35 min (range 17–145) in the Group A, 40 min (range 10–50) in the Group B, 133 min (range 58–320) in the Group C, and 160 min (range 69–290) in the Group D. Reduction in OT over the study period for hysterectomy ($p < 0.001$) and adnexal surgery ($p < 0.002$) was observed. All patients conveyed complete satisfaction with early postoperative pain control. One patient (2.17 %) of the Group C was readmitted in another hospital during the early postoperative period because of severe vaginal bleeding. In the conclusions, authors reported the first series of novel robotic approach. When performed by experienced minimally invasive surgeons, TELELAP ALF-X was feasible and safe [57], even if further studies are mandatory to define the benefits, advantages, and costs with respect to others minimally invasive approaches.

35. Dr. Claude Moreira and coll, from Dakar University Teaching Hospital Le Dantec, Senegal, discussed on the training in emergency obstetric and neonatal care (EMONC, https://www.k4health.org/toolkits/eonc/emergency-obstetric-and-newborn-care-emonc-training-curricula-comparison) and teaching approach in Burundi. The objective of this work is to present an innovative approach in continuing BEmONCeducation experienced in Burundi, the general principle was to control the essential steps in the simulated practice in the classroom before practicing in real situations in maternity. The supplier's performance was assessed during the whole process. This BEmONCtraining aimed to prepare participants to take over the five main causes of maternal death (hemorrhage, infection, hypertension, obstructed labor, and complications of abortions) and neonatal asphyxia. It took place in two phases: a first phase of six days as a classroom for seminars and a second phase in two formative supervision visits lasting two days on the provider's site. Following an assessment of EmONCtraining needs, a literature was used to develop standardized tools (trainer's manual, specifications of the learner, learning and checklist sheets) which have been validated by the Ministry of Health of Burundi and development partner. The trainers were gynecologists who have received training of trainers by a Senegalese capitalized institution with extensive experience training based on competence in ten francophone countries in Africa, the Training Center for Research and Advocacy in Reproductive Health (CEFOREP). The participants were general practitioners, midwives and nurses. Authors concluded that the simulated practice ensures the learning and mastery of all EmONCskills and minimize risk during practice on patients. The combination of classroom training with supportive supervision reduces the missed learning opportunities as observed in conventional formations in EmONC. The use of the database allows monitoring the care provider performance and evaluating the retention rate of the skills learned during the training. The challenge remains twofold: to document the impact of this training on Obstetric Emergency Care indicators and integrating this modality of training in basic training (medical school, school of midwives).

36. Dr. Murashko and coll., from Department of Obstetrics, Gynecology, and Perinatology, Faculty of Upgrading of Pediatricians, I. M. Setchenov Moscow Medical Academy, Russia, presented the pro and contra of cesarean myomectomy [49], since uterine myomas are a not rare complication during pregnancy, as approximately 2.7%-12,6% of all pregnant women suffer from uterine fibroids. The modern shift of childbearing age in older reproductive period provides tendency to increase of this pathology. Thus, it gives the question before an obstetrician what to do with fibroids during abdominal delivery. Traditionally, myomectomy (especially of big fibroids) is not been advised during cesarean section due to theoretical risk of massive hemorrhage, elongation of surgery time

and increased postoperative morbidity, but on the other hand presence of uterine myoma could increase risk of atonic postpartum bleeding, fibroid necrosis, endometritis, need of surgery [57]. Authors reviewed the efficacy, safety and necessity of myomectomy during CS on more than 7000 deliveries studied during 2013-2014 years in Russia. Seventy pregnant with uterine fibroids (more than 30 mm diameter) were selected in study group, delivered by CS with simultaneous myomectomy. Control group consisted of 100 pregnant delivered by CS without myomectomy. Mean duration of operative time significantly increase in myoma group for 15 min compared with "pure" CS, as well as mean blood loss, which increased up to 650 ml, compared with 500 ml in control. There were no cases of hypotonic postpartum bleeding in studied group; also, there were no cases of hysterectomy. Hospital stay in both groups did not differ significantly. Myomectomy during caesarean section is safe procedure fulfilled by experienced stuff in selected cases.

37. Prof. Ospan A Mynbaev and coll., from Moscow Institute of Physics and Technology (MIPT), Russia, presented an investigation on the impact of translational research on women's mortality rate, linked to emergency conditions in obstetrics & gynecology [58]. This study aimed to present a historical overview of the impact of translational research on women's mortality rate due to emergency conditions in gynecology such as ectopic pregnancy, adnexal torsion, acute pelvic inflammatory diseases and other acute conditions required an emergency surgery and intensive care. During last century, the rate of maternal mortality due to ectopic pregnancy has decreased proportionally with increased improvements of a medical aid by implementations of translational research achievements into physicians' routine. It included an introduction of diagnostic tools such as ultrasound and beta-human chorionic gonadotropin and algorithms of urgent medical management. Mortality and morbidity due to adnexal torsion, acute pelvic inflammatory diseases and other acute conditions (uterine rupture during abortion, ovarian hyper stimulation syndrome), have also solved with introduction of new generation of diagnostic tools such as ultrasound, magnetic resonance imaging, computer tomography, as well as laboratory assays based on the polymerase chain reaction with microbial ribonucleic acid and deoxyribonucleic acid determination, and other advanced diagnostic assays. These conditions were managed by means of new treatment modalities including surgical treatment with endoscopic technique and an administration of a new generation of antibacterial and other medications. These improvements in healthcare system were associated with dramatically decreased women's mortality rate, which was significantly pronounced in developed countries. However, the mortality rate from these conditions is remaining higher in developing countries, where new diagnostic and treatment technologies have not applied insufficiently. Though a death due to ectopic pregnancy is the main cause of maternal mortality in both developed and developing countries, therefore further diagnostic and prognostic technologies are called to decrease delayed diagnosis of ectopic pregnancies and other acute conditions which required urgent surgical and appropriate intensive care treatment to save women's lives. The same authors presented another different research, focused on the use of carbon dioxide homeostasis during laparoscopic surgery [59], starting from the problem that, nowadays, a large number of laparoscopic procedures, including robotic surgery and single-port laparoscopy, are growing worldwide [60]. Early limitations for laparoscopy are disaffirmed with involving to laparoscopic surgery children, elderly population, obese people and individuals with risk factors in cardiovascular and respiratory systems. CO_2-pneumoperitoneum is the necessary condition to create a working space to perform manipulations during laparoscopic surgery. High amount of CO_2 in the abdominal cavity unnaturally accelerates a basic chemical reaction of CO_2 and water with carbonic acid formation and its subsequent dissociation into hydrogen and bicarbonate ions, which is associated with CO_2-pneumoperitoneum side effects [61]. Subsequently literature concerning tissue-blood CO_2 exchange, peritoneal tissue pH changes during CO_2-pneumoperitoneum as well as CO_2-insufflation pressure-dependent extra/intra intracellular pH, and cell culture media pH changes CO_2 insufflation pressure-dependent synchronous arterial & venous blood gas

changes was comprehensively analyzed and concept of CO_2 homeostasis during laparoscopic surgery was developed. CO_2 always moves in accord with the tension gradient. Hence, in accord with our concept, the key driving mechanism can be the increased peritoneal tissue-to-venous and venous-to-arterial CO_2 tension differences resulting in high-pronounced venous CO_2 partial pressure with gradually increased arterial CO_2 partial pressure. This driving force produces changes in acid base and oxygen/oximetry and metabolic parameters in all body compartments with triggered compensatory reaction within them intended to stabilize blood gas and acid base equilibrium. In conclusion, authors affirm that two main factors, such as the intraperitoneal pressure and CO_2-insufflation time, are the determining mechanisms of CO_2-pneumoperitoneum-induced local and systemic changes during laparoscopic surgery, whereas gas temperature, body positions and other factors play a contributing role in pathophysiology of impaired respiratory and cardiovascular functions [62].

38. Prof. Farr Nezhat, from Department of Obstetrics, Gynecology and Reproductive Medicine, State University of New York at Stony Brook, College of Medicine, Minimally Invasive Gynecologic Surgery, Department of Obstetrics and Gynecology, Winthrop University Hospital, USA, had a magisterial lecture on the future of surgery and surgeons. He started from the concept that surgery was originally developed for the removal of large masses and abnormal tissue and, gradually, the surgical techniques were developed, not only to remove tissue, but rather to repair and replace organs. In surgery, as clinicians are dealing with human lives, surgeons need to be extremely cautious in adopting new techniques and methods and surgical change is extremely slow. Surgery is technical and physicians have to practice it to learn how to do it. Essentially, the limitations for surgery have been skill and experience of the surgeon, and the availability of proper instrumentation. Up to now, this fact holds truth. In his presentation, he will address how to deal with skill and experience of the surgeon, availability of proper instrumentation to enable better outcomes for the patients, and what the future holds for surgery and surgeons. The same authors discussed on surgical management of endometriosis of bowel, bladder, diaphragm, lungs, and liver, since in recent years, there have been significant changes in addressing many aspects of extra genital endometriosis, ranging from the epidemiology to the management of the disease [63]. Advances in minimally invasive surgery and expansion of the field have led to further research in management of extra genital endometriosis. As a result, treatment has shifted from medical management toward a surgical, multidisciplinary approach. Surgery for extra genital endometriosis clearly improves outcome through relief of symptoms, improved quality-of-life, increased fertility rates and reduced recurrences. Endoscopy has a pivotal role as both a diagnostic and therapeutic tool. Finally, always Prof. Farr Nezhat presented a review on the new insight into the pathophysiology of ovarian cancer [64] and the role of the fallopian tube and endometriosis [65]. He presented the latest information on the pathophysiology of ovarian cancer and its significance for ovarian cancer screening and prevention. A new paradigm for ovarian cancer pathogenesis proposes two distinct molecular profiles and pathways for epithelial ovarian cancers. Recent evidence suggests that the majority of high-grade serous tumors arise from either the fimbriated end of the fallopian tube [65], while low-grade, clear cell and endometrioid carcinomas arise from borderline serous tumors or endometriosis. He discussed on the advantages of bilateral salpingectomy at the time of hysterectomy or other pelvic surgeries in patients who do not desire fertility. Finally, he discussed of the association of endometriosis and subsequent carcinoma of the ovary as seen in observational and *in vitro* studies [64,65]. Although the chance of malignant transformation of endometriosis is low, understanding of this link offers a possibility for prevention and early intervention.

39. Dr. Kirill A Ovchinnikov and coll. from Voronezh Emergency Hospital, Russian federation, Voronezh, Russia, presented their surgical experience in laparoscopic myomectomy for large, multiple or transmural fibroids [66]; they discussed operation technique and reproductive outcomes. Laparoscopic myomectomy (LM) has advantages such as less blood loss, small

postoperative abdominal scar, faster recovery, reduced postoperative pain and lower rate of postoperative adhesions [67] in comparison with those of open surgery [68]. However, in cases of multiple, atypically located fibroids, large or transmural fibroids to perform myomectomy by laparoscopic approach surgeon should be skillful and experienced. Reproductive outcomes of 61 women with symptomatic fibroids more than 8 cm in diameter or transmural or multiple (>four fibroids), who experienced LM, were retrospectively analyzed. Authors showed a video on their surgical technique (intracapsular myomectomy). After myoma enucleating, they sutured hysterotomy by a continuous multi-layer unidirectional-barbed sutures and removed fibroids from the abdominal cavity by traditional power morcellation. Authors examined the following surveyed parameters: age, number and size of fibroids, pregnancies, abortions, uterine rupture, uterine scar dehiscence during pregnancies. Six patients were lost during follow up and results of 55 patients were evaluated. In the results, the mean age was 32.5±4.2 years. The mean number of fibroids was 3.5±2.5. The mean size of dominant fibroid was 8.8±1.9 cm. 36/55 women become spontaneously pregnant. There was 1/36 spontaneous abortion in 20 weeks of gestation, however 3 months later this patient conceived again and had a live birth. There was no cases of uterine rupture or dehiscence of uterine scar. 32/55 women underwent cesarean section, 1/32 woman urgent due to bleeding in 34 weeks of gestation and 2/32 patients delivered through vagina. Authors concluded that, in their experience, laparoscopic myomectomy for large, multiple or transmural fibroids can be a safe option with beneficial reproductive outcomes.

40. Dr. Gennaro Raimondo from Clinica Mediterranea, Naples, Italy, presented his experience on the hysteroscopic treatment of hystmocele [69], a uterine pathology localized exactly in the cervical canal, linked exclusively to Caesarean Section (CS), with a very characteristic symptom - postmenstrual spotting. Hystmocele is often confused with other diseases (hormonal imbalance or inflammation) which usually follows the unreasonable taking of drugs without solving the problem. In author opinion, the etiology of hystmocele may be due to the changes in the uterine closure technique from double layer to the single layer closure. In such investigation, he considered multiple factors generating hystmocele and its diagnostic means, allowing the correct diagnosis and finally the medical and surgical therapeutic options. Dr. Raimondo thinks that the most valid option to treat the hystmocele should be the resectoscopic approach, believing the only hysteroscopic resection of the anterior border as the gold standard, instead of usual technique based on aggressive tissue resection that may weaken the isthmus and complicate future pregnancies. Therefore, he recommends treating only the symptomatic patients, by short-term anesthesia, no pharmacological preparation, and in day surgery. At the end of his presentation, he showed a video demonstrating the resectoscopic technique, helping to discuss about the instruments and possible complications of the procedure.

41. Dr. Roland Richter from Department of Obstetrics and Gynecology, University of Basel Medical Center Basel, Switzerland, presented a review on comprehensive management of Postpartum hemorrhage (PPH) [70], the single most hazardous maternal complication in obstetrics, with a reported prevalence between 0.5 and 5 (!) percent and new tools for treatment of the condition are available, which have to be implemented in every obstetric unit [71]. The fundamentals of action require that adequate instrumental and human capacity be provided early enough. It has to be stated in fact that in PPH many fatalities occur because of *'too little too late*'. Blood loss after vaginal and cesarean delivery is regularly underestimated: in healthy women hemorrhage, over 1500 ml is rapidly trailed by decompensation of circulation. Furthermore, coagulopathy is a further complication of PPH, when amount and activity of coagulation factors decrease steeply because of gross substitution of volume with colloid and crystalloid fluids [72]. In addition substitution of 2.5 fold blood volume by concentrated erythrocytes causes thrombopenia < 50 G/l. Especially at risk for PPH are patients presenting with placenta previa combined with a history of previous cesarean section (25 % after 1 c.s., 50 % after 2 c.s.). First line therapy of PPH requires (1) general actions, (2) stabilization of circulation

and coagulation, and (3) tonisation in case of intact uterus or immediate laparotomy and suture in case of uterine rupture [70-72]. Second line therapy includes balloon tamponade, and surgery performed by the most skilled person available [73]. First choice surgical measures are transmural sutures in order to compress the Uterus, *e.g*. B-Lynch-, Hayman-, Pereira-, and/or U-sutures, while second choice surgical procedures are vasoligating: uterine, single or stepwise, and iliac [73]. In cases of intact uterus, uterine embolization by catheterization has been performed with a reported success rate of 80 %. In non-rupture, cases of PPH postpartum hysterectomy should always be the last surgical procedure, due to its technical challenge, and high morbidity rate [74]. As a preventive measure, it is strongly recommended that in order to treat PPH immediately, each obstetric unit (1) be in possession of a scheme/algorhythm on how to proceed available to all staff members, and (2) an experienced surgeon present within 20 minutes time [75].

42. Dr. Shahila Tazneem Sheik and coll, from Sultan Qaboos University Hospital, Sultanate of Oman, reported a peer review and audit of abdominal hysterectomies performed by five Consultant Gynecologists in a tertiary referral hospital in Oman. All patients who underwent Total Abdominal Hysterectomy for benign gynecological conditions over a period of 8 years were included for the review. Retrospective data were collected from electronic health records and various pre, intra and post-operative parameters were compared. Patients with known malignancy were excluded as were cases of Caesarean hysterectomy, subtotal, vaginal or laparoscopic hysterectomies. Statistical analysis was carried out using SPSS -21. p value of ≤0.05 was considered significant. The commonest indication for the hysterectomy was heavy menstrual bleeding (63%) and most of the patients were overweight or obese. The mean age of patients was 49.1 years with about 75% of patients undergoing bilateral salpingo-oophorectomy. The commonest histo-pathological finding was leiomyomas (61%) followed by Adenomyosis (33%). Neoplasia was found in 4% of cases. More than 95% of patients received antibiotic prophylaxis. There was no difference in the hospital stay and blood loss amongst the five surgeons, but there was a significant difference in the preferred incision (transverse/vertical) and duration of surgery amongst the five surgeons (P<.001). The intra and post-operative morbidity was comparable with international standards. There were no mortalities. Authors concluded that audits provide a means of measuring performance against agreed standards and demonstrates the profession's commitment to improving patient care. Unfortunately, very few audits are conducted in Gynecological practice and this trend needs to change.

43. Prof. Sergei Simakov and coll, from Moscow Institute of Physics and Technology (MIPT), showed computer simulations of Carbon dioxide (CO2) in blood during laparoscopic surgery [76]. The CO2 is a highly diffusible gas easily soluble in water. The CO2 is rapidly excreted through the lungs therefore; it widely applied for laparoscopic surgery in order to create manipulating space in the abdominal cavity [77]. Potential side effects of excessive CO2 insufflation are prevented by means of pressure- or/and volume-controlled ventilation during laparoscopy. Laparoscopic procedures are widely used for different type of patients, including children, obese individuals and subjects with respiratory and cardiovascular risk factors. Subsequently, CO2-pneumo-peritoneum side effects could manifest and produce undesirable consequences in these high-risk patients. Thus, it is beneficial for both patients and physicians (surgeons and anesthesiologists) to predict in advance possible complications are associated with CO2-pneumoperitoneum during laparoscopic surgery taking into account individual predisposing features of patients [78]. Therefore, a software complex is designed for simulating CO2 balance in organism during laparoscopic procedures. It allows assessment of possible ranges for CO2-pneumoperitoneum regimes (duration and/or maximum CO2 abdominal partial pressure) and optimization of artificial ventilation (frequency and/or tidal volume) to achieve potentially safe individualized conditions for specific patient. Authors' mathematical model derived basing on the compartment reduction of cardiovascular system and mass balance between them. They considered the blood-tissue diffusion region in

the abdominal cavity, arterial and venous blood compartments and alveolar gas exchange in the lungs controlled by the natural or artificial ventilation rate. Mass balance was observed as a set of ordinary differential equations, which is numerically solved by our software complex. Because of computer simulations, they present model validation by a wide range of available experimental rabbit's data. They provided numerically calculated dependencies of CO2 partial pressure in the blood for various combinations of duration, maximum CO2 abdominal partial pressure, artificial ventilation frequency and tidal volume. Authors also analyzed optimal frequency of artificial ventilation and showed that it should be maintained within specific range that can be assessed by computer simulations. In accord with their concept, the key driving mechanism of CO2 redistribution is the increased peritoneal tissue-to-venous and venous-to-arterial CO2 tension differences resulting in gradually increased blood CO2 partial pressure. It should be carefully assessed before laparoscopic surgery especially for high-risk patients. Computer simulations revealed substantial increase of CO2 during pneumoperitoneum duration and pressure increase. Distinct difference was observed from simulations for variable parameters mass, diffusion coefficients, average blood flow. Thus, this complex capable to reproduce important features and can be applied to patient-specific cases.

44. Dr. Rooma Sinha from Apollo Hospital, Jubilee Hills, Hyderabad, India presented her experience with colleagues on robot-assisted laparoscopic myomectomy (RALM) comparing it to laparoscopic-assisted myomectomy (LAM) [79], by a retrospective cohort study settled in tertiary care private teaching Hospital, between June 2012 to December 2014. Seventy-six patients underwent myomectomy in the study period: 40 and 36 women chose RALM and LAM respectively. There were no open myomectomies or conversions. The mean age (33.9y, 32.2y), BMI (24.6, 25.0) and co-morbidities were similar in both groups. Number of women presenting with dysmenorrhea were more in RALM group (9/40 versus 1/36, p=0.03). The average number of fibroids removed at RALM was higher (2.3 versus 1.3, p=0.01) but the average weight of fibroids removed was similar in the two groups (399±679g versus 688±1115g). These differences persisted despite re-analysis after excluding the outliers necessitated by a few extreme values. There was no difference in the mean operating time, blood loss and need for transfusion. Patients in RALM group had significantly lesser requirement of intravenous analgesic (61 hours versus 33 hours) and a shorter hospital stay (1.8 days versus 2.8 days). In author opinion, basing on his report, the RALM offers comparable surgical outcomes while reducing intravenous analgesic requirements and hospital stay. The number of fibroids removed at RALM is higher although the overall weight removed is the same, suggesting that this approach might be more useful in patients with multiple fibroids. The operating time is similar (time needed for docking and morcellation was excluded in RALM group). Docking and morcellation time can be reduced as the experience of the surgical team increases. Patients with dysmenorrhea chose RALM more often suggesting that presentation and possibly patient-bother might influence choices. The major limitations are that this study was retrospective, non-random and open label.

45. Dr. Fusun Sirkeci and coll, from Department of Obstetrics and Gynecology, St George´s Healthcare NHS Foundation Trust/ St George's, University of London, discussed on treatments of symptomatic uterine fibroids with myomectomy, reporting current practices and views of UK consultants. In a 25-stem questionnaire, they enquired about a variety of practices including GnRH analogue use, methods to reduce blood loss, and UAE. Survey Monkey® was used with a response rate of 21.6%. Logistic regression analysis was performed using SPSS software. They realized that open myomectomy was the most common route, with 80% surgeons using GnRH analogues preoperatively to minimize either the blood loss or correct anemia, despite 60% believing that GnRH analogues destroy tissue planes. Vasopressin was the most common intervention to reduce intraoperative blood loss. Sixty-two colleagues reported that they have no limit on the size of the uterus, that they perform an open myomectomy. Compared to male counterparts, female consultants appear to operate significantly less. Consultants with ≥

10 years' experience were more likely perform more open myomectomy compared to less experienced counterparts. In authors conclusions, over the past 10 years the practices have not changed. Access to Uterine Artery Embolization (UAE) has increased; more women of childbearing age are offered UAE despite the stable numbers of surgery: UAE does not seem to take myomectomy`s place, but more women are demanding uterine saving procedures. More females enter into the specialty, but they seem operate significantly less, and consultants with less experience tend to perform less open myomectomy. These could be reflections of important training issues with future implications. The same authors discussed on the hemodynamic effects of vasopressin during open myomectomy [80], since intra-operative vasopressin is widely used in UK, but there are persistent concerns regarding its safety, especially due to its effects on the cardiovascular system (CVS). There are no definitive studies on the hemodynamic impact of vasopressin during myomectomy, so women undergoing open myomectomy for massive fibroids were studied. Vasopressin (20 IU diluted in 100ml normal saline) was administered intramyometral and around the fibroid capsule, ensuring no direct intravascular infusion. Intensive cardiovascular patients' monitoring included pulse rate, blood pressure changes and a non-invasive Doppler cardiac monitor is used to assess stroke volume and cardiac output. Authors studied 17 women, with a target number of 20, and they anticipate reaching target number by the time of the NESA conference. Authors have noted profound changes in hemodynamic parameters in all 17 women, including a profound fall in cardiac output, significant bradycardia, and a significant rise in blood pressure. All these changes reversed spontaneously during the myomectomy, with no ill effects on the patients. Thus, in their conclusions, authors reported that Vasopressin causes profound but reversible cardiovascular changes [81]. In the group of patients studied, who were relatively young and healthy, such hemodynamic changes have no significant negative sequelae, and vasopressin is therefore a safe and effective agent for minimizing blood loss. It is evident that vasopressin should not be used where there is existing or potential cardiovascular compromise.

46. Dr. Slobodyanyuk from Zhukowsky Municipal Clinical hospital, Zhukowsky, Russia, reported his surgical experience on bilateral internal iliac artery ligation IIAL [82] performed in 86 patients, to avoid hysterectomy in young patients affected by intensive and massive post-partum hemorrhage [83]. He analyzed the case of bilateral IIAL during 10 year in their clinic, performed by classical abdominal approach, 2 cm below iliac bifurcation in external and internal branches. Authors revised all indications: 10 – detachment of placenta and uterine atony (in 4 cases without hysterectomy), 8 – Diffuse Intravascular Coagulation after postpartum hysterectomy. Three cases of cervical pregnancy less 8 weeks (laparoscopic IIAL, curettage, Folly catheter placement). In gynecology in 31 cases, IIAL was performed before hysterectomy in elective oncology surgery: five patients – hemorrhage in case of cervical cancer, 14 emergencies operation center, 12 endometrial cancers. In 34 cases, IIAL was performed during difficult myomectomy. In his results, all obstetrical hemorrhages was severe and bleeding stopped soon after IIAL, but all patients required long stay in Intensive Care Unit, but all patients survived. In cases of cervical pregnancy no hysterectomy performed, all three patients subsequently got pregnant. After myomectomy, all 34 patients have normal menstrual function, moreover 21 of them delivered by CS without complication. Effect of IIAL due to lowering pressure of pelvic vessels by 50% (Burchell), that more amenable for clot formation. Exposure could be difficult due to Pfannenstiel incision, big uterus, and reoperation after hysterectomy and retroperitoneal hematomas. This operation must be in armamentarium of all obstetricians and gynecologists.

47. Prof. Michael Stark, President of The New European Surgical Academy, Berlin, Germany, discussed on TELELAP Alf-x, the new European Telesurgical system with force feedback [84]. This system combines the advantages of laparotomy and endoscopy, providing force feedback although working endoscopically. Among its features are eye tracking system with 3D vision, force feedback, unlimited access to the patient throughout surgery and working from all sides and angles like trans-Douglas, a high degree of versatility. In order to assess the

validity of this system, experimental preclinical procedures in various surgical fields were performed and after approval for clinical use in Europe for abdominal and thoracic surgery, clinical application has started at the Catholic University of Sacred Heart in Rome, under the leadership of Prof. Giovanni Scambia. The parameters examined were Use of the instruments, tactile force transmission, Safety, Reliability, Ergonomics, The 3D Stereo Vision system, Docking time, Cost-effectiveness. The pre-clinical studies took place in the Veterinary Hospital in Lodi. The operation time for total nephrectomy of 70 minutes in the first case, was reduced to 18 minutes in the 10th case. The average time for cholecystectomy was 31.75 minutes (30-35), compared to 91 minutes in a conventional system, probably due to the existing force-feedback, which gives confidence to the surgeon. Similar results were shown by partial nephrectomy – 115 (110-120) vs. 140 minutes. At the Catholic University of Sacred Heart in Rome, 146 gynecological operations were successfully done with no single conversion. Ten ovarian cysts were enucleated using the Telelap Alf X system [85] and the median operation time was 46.3 min. Postoperative follow-up was uneventful. Ten gynecological surgeons completed a training program using the Telelap Alf X system. Mastered the use of the system rapidly and completely. The learning curve of the use of the system is extremely rapid. This system proved to be efficient, reliable and useful. No single failure occurred and no technical problem occurred throughout the pre-clinical studies. Its use and further development promise benefit to the traditional endoscopic operations.

48. Prof. Andrea Tinelli, from Department of Obstetrics and Gynecology, Division of Experimental Endoscopic Surgery, Imaging, Technology and Minimally Invasive Therapy; Vito Fazzi Hospital, Lecce, Italy, presented his research on biological and clinical impact on reproduction of myomectomy by pseudo-capsule sparing [86]. Commonly, myomas are located into myometrium and surrounded by the progressive formation of a pseudocapsule, which is a fibro vascular network containing neuropeptides and neurotransmitters. They have influence uterine muscular physiology, an important role in wound healing and innervation repair, significant for reproductive and sexual function. To preserve the myoma pseudocapsule, as a neurovascular bundle, it was created specific surgical technique, called “intracapsular myomectomy”; by this surgical method, the myoma is removed from myometrium preserving its pseudocapsule. This technique reduces the surgical trauma caused by iatrogenic myoma pseudocapsule damage. It is performed by stretching and extracting fibroid directly from the surrounding fibromuscular skeleton, breaking up the fibrous bridges. The clinical rationale for intracapsular myomectomy can be applied to all myomectomies; therefore, it has been used for both laparoscopic and laparotomic myomectomy, as well as for cesarean myomectomy. Scientific research is attempted to clarify some links between myomas and infertility, especially in case of intramural myomas, but it is clear that in the case of performing myomectomy, it must do by the described intracapsular method [67].

49. Dr. Avinoam Tzabari, from Department of Obstetrics & Gynecology, Medical Center Yoseftal Hospital, Israel, discussed on emergency cerclage in bulging membrane – "to do or not to do" – as the leading question [87]. In his experience, during 18 years, 125 Cerclage have been done, 24 cases of Emergency Cerclage performed in second trimester, in eight cases with Bulging Membrane, the Cerclage was performed 4 days after rest from diagnosis. In his presentation, he discussed our decision-making process and outcomes.

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